

ABSTRACT

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3 A negative electrode for use in secondary battery with nonaqueous electrolyte having
4 a high voltage and energy density and a superior cycle property, characterized in that the
5 active material comprises composite carbon materials containing massive ball-shaped
6 graphite particles, carbon fibers, and graphite flakes. The massive ball-shaped graphite
7 particles provide porosity to the composite, the carbon fibers improve packing density,
8 conductivity, and stiffness to prevent the body made thereof from swelling and decomposing,
9 and the graphite flakes reduce friction in the mixture. An aqueous, non-fluorine-containing
10 binder is used, along with a titanium negative substrate.